CLASS – VII, SUBJECT – MATHEMATICS
CHAPTER 4(EXPONENTS AND POWERS)
WORKSHEET, (BASIC LEVEL)

Choose the correct option (10 x 1=10)

1. $8^3 \times 8^4$ is equal to

a. 8^{12} b. 64^7 c. 2^{21} d. none of these

2. Which of the following is not equal to 3 x3 x3x3x3x3?

a. 3^6 b.18 c. 9^3 d.729

3. $[(4)^2]^3$ is equal to

a. 4^8 b. 4^6 c. 4^5 d. 4^{23}

4. 245^0 is same as

a.245 b.0 c.1 d. meaningless

5. $2.7X10^{-3}$ is equal to

a.0.000027 b. 0.00027 c.0.0027 d.2.007

6. $a^m \times a^n$ is equal to

a. a^{mn} b. a^{m+n} c. a^{m-n} d. $a^{m/n}$

7. $(-1)^{1001}$ is same as

a.1 b.-1 c.1001 d.0

8. 6^{-1} is same as

a.6 b.1/6 c.-6 d.-1/6

9. The value of $(-2)^{-5}$ is

a.-32 b.10 c.-1/32 d.1/32

10.Which of the following is not true?

a. $2^4 = 4^2$ b. $2^4 = 8$ c. $2^3 < 3^2$ d. $3^3 = 27$

Answer the followings (10 x 1=10)

11. Write the base and exponent of $(-1/3)^4$.

12. Express 2x3 x2x3 x 2x3 x2x3 in exponential form.

13. Express 7^9 in the product form.

14. Express $(¾)^3$ in the form of p/q.

15. Find the reciprocal of 9^2.

16. Express $(1/3)^{-2}$ with positive exponent.

17. Write 3 crore in standard form.

18.Write 7.2×10^3 in usual form.

19.Which power of 7is 343?

20.Express $(9^{-4})^3$ as a single exponent of 9?

Short answer type (10 x2=20)

21. Express $-\frac{8}{125}$ as a power of rational number.

22. Write the reciprocal of $(-6/7)^5 \div 7^0$

23. Evaluate and express the result in p/q form.

$(-{}^{3}/_{7})^{3} \div ({}^{6}/_{7})^{2}$

24. If $a = ({}^{4}/_{5})^{-1} \div ({}^{8}/_{7})^{0,}$ then find the value of a^2

25. Find the value of x if $[({}^{4}/_{7})^{3}]^{-4} = ({}^{4}/_{7})^{6x}$

26. Express $(-11)^2$ x $(-7)^2$ in single exponential form.

27. Which is greater 3^{12} or 6^6 ?

28. Find x if $(-3)^{x-2} = -243$

29.Evaluate: $(5/6)^6 \div (-5/6)^4$

30. Evaluate: $1^0 + 2^0 + 3^0 + 4^0 + 5^0$

D.A.V PUBLIC SCHOOLS, CHANDRASEKHARPUR
CLASS – VII, SUBJECT – MATHEMATICS
CHAPTER 4(EXPONENTS AND POWERS)
WORKSHEET, (STANDARD LEVEL)

Choose the correct option (5 x 1=5)

1. Which expression is equivalent to 81?

a.2^9 b. $(1/3)^{-4}$ c.3^{-4} d. $(1/3)^4$

2.$-(-3)^4$ is equal to

a.81 b.-81 c. $(3)^4$ b.both a and c

3. Which power of 8 is equal to 2^6.

a.3 b.2 c.1 d.4

4. $(-6/5)^{-1}$ equal to

a.6/5 b.-6/5 c.5/6 d.-5/6

5. Which of the following is greatest?

a.4^{-2} b.4^{-3} c.3^{-4} d.3^{-2}

Answer the followings (5 x 1=5)

6. Express 0.00987 in standard form.

7. Which power of 9 is equal to 3^8?

8. Express $(-3)^2$ x $(-7)^{-2}$ in single exponential form.

9. How many times 8 must be added to get a sum equal to 8^{15}?

10. Which is greater 3^{12} or 6^6 ?

Short answer type (10 x2=20)

11. If $4^x=128$, then find the value of x.

12. By what number should $(-3)^{-2}$ be multiplied so that the product may be equal to 9?

13. Simplify -: $(2^{-1} - 3^{-1})^2$

14. Write exponential form for 9 x 9 x 9 taking base as3.

15. Write $(¾)^{-3}$ in the form of p/q.

16.Compare 3.8×10^{27} ;1.9×10^{28}

17. Find the value of $\{(3^0+2^0) \times 5^0\}^{-2}$

18. Find the value of $(-1)^6 \times (-1)^5 \times (-1)^4 \times (-1)^3 \times (-1)^2 \times (-1)^1$

19. By what number should $(-12)^{-1}$ be divided so that the quotient may be equal to $(-4)^{-1}$?

20. 5 books and 5 paper sheets are placed in a stack. Express the total thickness of the stack in standard form if each book has a thickness of 20 mm and each sheet has a thickness of 0.016 mm.

D.A.V PUBLIC SCHOOLS, CHANDRASEKHARPUR
CLASS – VII, SUBJECT – MATHEMATICS
CHAPTER 4(EXPONENTS AND POWERS)
WORKSHEET,HOTS

1.If $3^{3000} - 3^{2999} - 3^{2998} + 3^{2997} = a.3^{2998}$, then find the value of a.

2.Simplify $\{(4/5)^3\}^2 \div (1/4)^{-2} \times 4^{-1}$.

3.How many digits are there in $4^{16}.5^{25}$.

4.Find the unit place of the digit$(1247)^{1247}$.

5.Find n if $2^{n-5} \times 6^{2n-4} = \frac{\mathbf{1}}{\mathbf{12^4}} \times \frac{\mathbf{1}}{\mathbf{2}}$

6. If $2^{n-1} + 2^{n+1}=320$, then find the value of n.

7. Find the value of $(4^x + 4^{x+2})/4^x$

8. Write in ascending order

$2^{32}, 4^{15}, 8^{11}, 16^8, 32^6$

9. Express $\frac{243^{0.13}\, X 243^{0.07}}{7^{0.25}\, X 49^{0.075} X 343^{0.2}}$ as a rational number.

10. If $a^x = b$, $b^y = c$, $c^z = a$ then find value of xyz